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Waste Management Plan for Operable Unit 3-13, Group 6, Buried Gas Cylinders



DOE/ID-10837 Revision 2 Project No. 23510

Waste Management Plan for Operable Unit 3-13, Group 6, Buried Gas Cylinders

July 2004

Prepared for the U.S. Department of Energy Idaho Operations Office

ABSTRACT

This Waste Management Plan describes waste management and waste minimization activities for Group 6, Buried Gas Cylinders, at the Idaho Nuclear Technology and Engineering Center located within the Idaho National Engineering and Environmental Laboratory. The waste management activities described in this plan support the selected response action presented in *Final Record of Decision for Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13*. This plan identifies the waste streams that will be generated during implementation of the remedial action and details plans for waste minimization, waste management strategies, and waste disposition.

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ACRONYMS

CERCLA Comprehensive Environmental Response, Compensation and Liability Act

CFA Central Facilities Area

DOT Department of Transportation

HDPE high-density polyethylene

ICDF INEEL CERCLA Disposal Facility

INEEL Idaho National Engineering and Environmental Laboratory

INTEC Idaho Nuclear Technology and Engineering Center

IW industrial waste

IWTS Integrated Waste Tracking System

LLW low-level waste

MLLW mixed low-level waste

OU operable unit

PCB polychlorinated biphenyl

PPE personal protective equipment

RCRA Resource Conservation and Recovery Act

ROD Record of Decision

TSCA Toxic Substances Control Act

TSD treatment, storage, disposal

WAC Waste Acceptance Criteria

WGS Waste Generator Services

WMP waste management plan

WTS waste technical specialist



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1. INTRODUCTION

The Remedial Design/Remedial Action Work Plan (DOE-ID 2003a) identifies and describes in detail the work elements required to remove and manage compressed gas cylinders that have been land-disposed at CPP-84. The removal action is identified in the *Final Record of Decision for Operable Unit 3-13* (DOE-ID 1999). This Waste Management Plan (WMP) describes the management of wastes generated during the remedial action.

CPP-84 is located between Idaho Nuclear Technology and Engineering Center (INTEC) and Lincoln Boulevard approximately 60 ft south of the Big Lost River. The site consists of a trench where compressed gas cylinders were disposed after initial construction of INTEC (formerly known as the Idaho Chemical Processing Plant) in 1952. It is estimated that up to 200 compressed gas cylinders were buried at this location. Anecdotal evidence, including maintenance logs from CF-638, chemical index sheets from the CPP-660 cylinder dock, and interviews with INTEC personnel, indicates that the cylinders contain acetylene, compressed air, argon, carbon dioxide, helium, nitrogen, and oxygen. As identified in Section 7.3.2 of the Work Plan, unexpected gases may also be discovered.

The horizontal and vertical extent of the burial trench has been estimated using ground-penetrating radar. The trench is currently staked and measures approximately $8 \text{ m} \times 26 \text{ m}$ (25 ft \times 85 ft) and approximately 2 m (5 ft) deep. Figure 1-1 shows the location of CPP-84 in relation to the INTEC.

1.1 Purpose

This WMP is intended to provide a management and planning tool for identifying and managing the waste streams generated from the Operable Unit (OU) 3-13, Group 6, Buried Gas Cylinders, remediation activities. The primary objective of this WMP is to properly identify the types of wastes that are anticipated to be generated during implementation of the Group 6 remedial actions and present a strategy for managing them compliantly. This plan addresses the waste characterization strategy; requirements for waste storage, labeling, packaging and transportation, treatment, if required, and designated facilities for ultimate disposal of the waste. This plan also identifies required records and reports and discusses strategies for minimizing waste during remediation activities.

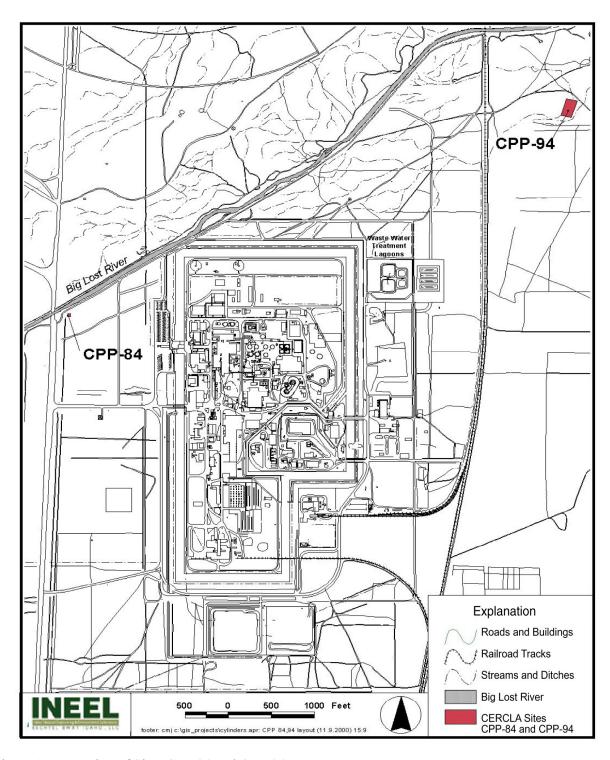


Figure 1-1. Location of Sites CPP-84 and CPP-94.

2. DESCRIPTION OF REMEDIATION ACTIVITIES

Remedial activities that will generate waste are identified in this section. Comprehensive waste management for each waste stream is described in Section 3. These activities are as follows:

- Remediation activities at CPP-84 consist of (1) cylinder excavation and segregation, (2) cylinder content sampling and analysis, and (3) soil sampling and analysis. The method of treatment will be determined based on the analytical results of cylinder contents. It is anticipated that treatment methods may include venting, thermal or chemical oxidation, or neutralization of gases in accordance with Section 7.3 of the Work Plan.
- Soil data will be collected at CPP-84 and CPP-94 at the conclusion of cylinder removal activities. The purpose of this data collection is to provide a characterization of the excavation bottom. Soil samples will be collected and analyzed for contaminants of potential concern at an off-Site laboratory. This activity is detailed in the *Preliminary Characterization Plan for OU-13 Group 6 RD/RA Buried Gas Cylinder Sites: CPP-84 and CPP-94* (DOE-ID 2001).

3. WASTE GENERATION

Table 3-1 identifies and describes the waste types that may be generated as a result of Group 6 activities and provides the management strategies for and proposed disposition of each waste type.

Waste streams will be characterized as required by Department of Energy orders and in accordance with 40 CFR 262.11, "Hazardous waste determination." Hazardous waste determinations will be performed on the waste streams described in this WMP.

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Waste Type	Description	Management Strategy	Disposition ^a
Industrial waste (IW)	Solid waste generated by industrial processes, manufacturing, and support processes (40 CFR 243). Certain wastes, such as nontraining-related personal protective equipment (PPE), petroleum-contaminated material (such as soil, sand, gravel, or other earthen material), engine oil filters, etc., require a waste-stream-specific, documented waste determination per the <i>Idaho National Engineering and Environmental Laboratory Waste Acceptance Criteria</i> (WAC) (DOE-ID 2003b). IW streams may include (but are not limited to) PPE, gas cylinders, unused or unaltered samples, analytical residue and sample preservative residue, used sample containers, gas cylinders, petroleum-contaminated media, contaminated equipment, and miscellaneous wastes.	Wastes must be characterized, documented, and tracked, if necessary, as described in this WMP. IW will be transported to the Idaho National Engineering and Environmental Laboratory (INEEL) Landfill Complex (at the Central Facilities Area) for disposal. Recyclable and reusable items will be managed under this WMP and the INEEL WAC. Requirements for disposal (described in the INEEL WAC) must be met.	INEEL Landfill Complex or recycled/reused under the INEEL WAC and this WMP.
Hazardous waste	Waste designated as hazardous by the Environmental Protection Agency regulations (40 CFR 261.3) and regulated under the Resource Conservation and Recovery Act (RCRA). Hazardous waste streams may include (but are not limited to) PPE, unused or unaltered samples, analytical residue and sample preservative residue, used sample containers, gas cylinders, petroleum-contaminated media, contaminated equipment, and miscellaneous wastes.	Wastes must be characterized, documented, and tracked as described in this WMP. If necessary, solid waste streams will be staged and managed in accordance with this WMP.	INEEL CERCLA Disposal Facility (ICDF) landfill. In the event wastes do not meet the ICDF landfill WAC, the wastes will be containerized, treated, and/or stored at the ICDF as necessary or required until appropriate on- or off-Site treatment, storage, or disposal is arranged.

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Waste Type	Description	Management Strategy	Disposition ^a
Low-level waste (LLW)	Waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, by-products, or naturally occurring radioactive material. LLW may include (but is not limited to) solid sampling and monitoring materials, PPE, unused or unaltered samples, analytical residue and sample preservative residue, used sample containers, gas cylinders, other radiologically contaminated materials such as petroleum-contaminated media (i.e., soil or other absorbent materials containing radiological- and petroleum-contaminated materials). Activities that may generate LLW include sampling and monitoring, and remediation activities.	All wastes must be characterized, documented, and tracked, if necessary, as described in this WMP. If necessary, solid waste streams will be staged and managed in accordance with this WMP.	ICDF landfill. In the event wastes do not meet the ICDF landfill WAC, they will be containerized, treated, and/or stored at the ICDF, as necessary or required, until appropriate on-Site or off-Site disposal is arranged.
Asbestos waste (including radioactively contaminated asbestos waste)	Waste managed strictly under National Emission Standard Hazardous Air Pollutants or Toxic Substances Control Act regulations, as applicable. These waste streams may include (but are not limited to) gas cylinders, materials from sampling activities, and remediation activities (e.g., PPE, soil).	All wastes must be characterized, documented, and tracked as described in this WMP. If necessary, solid waste streams will be stagged and managed in accordance with this WMP. All asbestos waste will be managed in accordance with 40 CFR 61.150; and 40 CFR 61.156. Asbestos-containing material will be wetted, bagged, sealed, and labeled in accordance with the appropriate requirements.	ICDF landfill or INEEL Landfill Complex. If, during the hazardous waste determination, asbestos-containing material is found not to have a radioactive component associated with it, the asbestos-containing material will be disposed of in the INEEL Landfill Complex (at CFA) if it meets the INEEL WAC.

In the event a waste stream does not meet the ICDF landfill WAC, the waste will be containerized, treated, and/or stored at the ICDF as necessary or required until appropriate on-Site or off-Site treatment, storage, or disposal is arranged.

Table 3-1. (continued).

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Waste Type	Description	Management Strategy	Disposition ^a
Effluent from remediation activities, including treatment of cylinder gases and rinsing of empty cylinders.	As part of the treatment of gases removed from cylinders (e.g., chlorine and hydrofluoric acid), an aqueous waste stream(s) will be generated. The empty cylinders (e.g., HF acid and chlorine) may be rinsed as a best management practice. This activity would also generate an aqueous waste stream.	The effluent waste streams will be containerized, characterized, documented, and tracked as described in this WMP. This waste stream is not anticipated to be characteristic due to pH or metals content. Following discussion with ICDF personnel, this waste stream may be containerized to facilitate management at the ICDF as a solid waste.	ICDF evaporation pond, subject to meeting that facility's WAC. If it is determined that management at the ICDF is not acceptable, alternative facilities for management will be evaluated, subject to compliance with the off-Site rule, as applicable.

a. Most IW will be sent to the INEEL Landfill Complex for disposal (subject to meeting the INEEL WAC). IW that does not meet the INEEL WAC will be managed at the ICDF Complex under this WMP.

4. GENERAL REQUIREMENTS

Wastes resulting from Group 6 activities may include PPE, unused or unaltered samples, analytical residue and sample preservative residue, used sample containers, petroleum-contaminated media, and miscellaneous wastes. These wastes will be managed in accordance with this WMP.

4.1 Waste Minimization and Segregation

Wherever possible, waste minimization strategies will be used during implementation of the remedies. Waste minimization for this project will be accomplished through design and planning to ensure efficient operations that will not generate unnecessary waste. As part of the pre-job briefing, emphasis will be placed on waste reduction philosophies and techniques, and personnel will be encouraged to continuously attempt to improve methods for minimizing waste generation. Practices to be instituted to support waste minimization include, but are not limited to, the following:

- Restricting materials entering radiological buffer areas to those needed for work performance
- Substituting recyclable items for nonhazardous items that are easy to dispose of
- Reusing items when practical
- Segregating contaminated from uncontaminated waste
- Reusing soil that meets the OU 3-13 remedial action objectives, as specified in the OU 3-13 Record of Decision (ROD) (DOE-ID 1999).

4.2 Characterization Strategy

Waste generated during Group 6 activities will be characterized using approved sampling and analytical information (both existing and new) or process knowledge. Initial waste characterization based solely on process knowledge must ensure that the chemical, physical, and radiological properties of the waste are adequately determined. The designation must be accomplished with sufficient accuracy to ensure that subsequent treatment, storage, or disposal of the waste is protective of human health and the environment.

As outlined in Section 3, preliminary classifications have been made of anticipated waste types based on process knowledge and existing characterization data regarding the source(s) of the expected waste. Subsequent to generation, any or all of the waste may be reclassified. Before ultimate disposal, waste may be further characterized to ensure compliance with the ICDF Complex WAC (DOE-ID 2003c) or other applicable disposal facility WAC. Appropriate and required documentation of waste characterization will be completed in compliance with the applicable WAC.

4.3 INEEL Waste Management and Disposition

Waste generated at the INEEL as a result of this Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) remedial activity may include IW, hazardous, low-level, or asbestos (see Table 3-1). These wastes may be disposed of at the INEEL if they meet the specific facility's WAC. Typically, most of the CERCLA-generated waste will be sent to the ICDF for disposal, although CERCLA-generated IW is generally disposed of at the INEEL Landfill Complex.

4.3.1 Waste Planned for Disposal at the ICDF

Group 6 waste planned for disposal at the ICDF will be required to meet the ICDF Complex WAC (DOE-ID 2003c), the ICDF Landfill WAC (DOE-ID 2003d), and the ICDF Evaporation Pond WAC (DOE-ID 2003e).

4.3.2 Waste Transported to Non-INEEL Facilities

Some of the waste generated during Group 6 activities may not meet the ICDF WAC and would be sent to a treatment, storage, or disposal (TSD) facility located outside INEEL boundaries. CERCLA waste that is sent outside INEEL boundaries for TSD shall meet Department of Transportation (DOT) requirements, the receiving facility's WAC, and the off-Site requirements in accordance with 40 CFR 300.440, "Procedures for planning and implement off-site response actions."

4.3.3 Wastes Planned for Disposal at Non-CERCLA INEEL Facilities

The appropriateness of a waste disposal option is based on whether a particular waste could reasonably be expected to cause or contribute to an environmentally significant release of hazardous substances from a selected facility. Releases of hazardous substances to the air or groundwater in quantities that could reasonably be expected to pose a significant threat to human health and the environment are considered environmentally significant. Any waste described in this plan that would be reasonably expected to exceed this threshold criterion will be evaluated separately to determine the suitability of the waste for disposal. This particular waste will not be shipped for disposal unless special provisions are made and documented to mitigate the potential for release. The primary list of hazardous substances under CERCLA is contained in 40 CFR 302.4, "Designation of hazardous substances." As the remedial process proceeds and additional information becomes available, reviews that are more detailed will be conducted to ensure that waste planned for specific disposal options meets the detailed WAC for each specific facility.

4.3.4 Managing Industrial Waste for Disposal at the INEEL Landfill Complex

IW is solid waste that is neither radioactive nor hazardous. At the INEEL, IW streams are typically disposed of at the INEEL Landfill Complex. Many types of CERCLA IW are generated in the area of contamination as a result of material used in a project. Although the generator may believe the IW has not been contaminated with either radioactive or hazardous materials, the absence of contamination is validated by radiation surveys, radiological smears and analysis, or visual inspections (visual staining and/or discoloration of soil and/or debris).

A general hazardous waste determination is prepared for routinely generated IW to document that the waste is neither radioactive nor hazardous. Industrial waste streams that have a higher probability of containing constituents restricted from disposal are considered nonroutine and will undergo a waste-stream-specific hazardous waste determination. This determination is accomplished by sampling, radiation and contamination surveys, using process knowledge of the waste-generating process (e.g., determining if the waste was mixed with a listed waste or derived from the TSD of a listed waste), and evaluating the composition of the IW. Waste Generator Services (WGS) evaluates CERCLA IW to determine if the waste meets the IW acceptance criteria. Management of IW is performed in accordance with company procedures.

Industrial waste is generally collected in IW collection dumpsters that are posted with signs describing acceptable and prohibited items. However, to ensure that disposal of industrial waste is protective to human health and the environment, the INEEL Landfill Complex employs the following additional methods:

- Characterization of IW by WGS to ensure that the requirements of the WAC are met before shipment to the facility
- Prohibition of the receipt of radioactive and hazardous waste
- Prohibition of the receipt of free liquids at the landfill
- Periodic inspection of received waste to validate that it meets the acceptance and waste determination criteria
- Periodic sampling of groundwater monitoring wells near the INEEL Landfill Complex.

Environmental monitoring data have not indicated an environmentally significant release of hazardous substances to the air or groundwater from current IW disposal operations at the INEEL Landfill Complex. The current disposal area at the INEEL Landfill Complex is a solid waste management unit. As such, if future environmentally significant releases to the air or groundwater are identified, those releases may be subject to response action, as stipulated by Section V of DOE-ID (1991).

4.3.5 Waste Packaging and Transportation

Before CERCLA waste is transported to a disposal facility, WGS and Packaging and Transportation Department personnel will be contacted to ensure the waste is properly handled, packaged, labeled, and transported in accordance with the INEEL Packaging and Transportation Program and the safety basis requirements of 10 CFR 830, Subpart B, and the DOT Hazardous Materials Regulations required by DOE Order 460.1B, "Packaging and Transportation Safety," for the on-Site transport of LLW and mixed low-level waste (MLLW) soils from INTEC to the ICDF.

Packaging of waste designated for shipment to the ICDF will be in compliance with applicable, relevant, or appropriate requirements in the OU 3-13 ROD and with the ICDF WAC. Appropriate personnel will be consulted prior to generation of any waste to identify proper containment to be used for each waste stream. The CERCLA waste-generating sites must ensure waste materials are packaged in containers that are in good condition and compatible with the waste stored in them, with void spaces in containers reduced as much as possible. Management of the ICDF Complex should be consulted prior to the use of containers other than those specified in the ICDF WAC.

Waste containers in staging areas will be labeled and marked in accordance with the applicable receiving facility's requirements. Specifically, waste destined for the ICDF shall be labeled in accordance with the labeling requirements identified in that facility's WMP. Industrial waste destined for the INEEL Landfill Complex shall meet INEEL WAC (DOE-ID 2003b) and be labeled in accordance with applicable requirements. The CERCLA waste destined for an off-Site facility shall, at a minimum, have an Integrated Waste Tracking System (IWTS) label, a radiation label (if applicable), and a CERCLA waste label to ensure that personnel know the contents within the container. The CERCLA waste label shall identify the project that generated the waste (e.g., OU 3-13, Group 6); the date the waste container was filled; the waste description (e.g., debris, soil); and the waste hazards (e.g., radioactive, polychlorinated biphenyls [PCBs], RCRA waste codes). Prior to off-Site transport, additional labeling may be required, including DOT-required labeling.

Any information not known when waste containers are initially labeled will be added when the information is known. As applicable, WGS personnel will provide IWTS bar codes for containers. A new bar code will be affixed to each container when waste is first placed in the container. Waste labels must be visible, legibly printed or stenciled, and placed on the container in such a manner that a full set of labels and markings is visible during an inspection.

Sampling and transportation will occur in compliance with the applicable WAC, DOT requirements, and RCRA regulations. Contact with the disposal facility must be made in advance to allow both the facility and the shipper the time required to make any preliminary arrangements.

4.3.6 Managing Waste Information

Information pertaining to waste characteristics, waste generation and storage locations, disposition plans, and waste shipments for CERCLA MLLW, CERCLA LLW, and nonroutine CERCLA IW generated at the INEEL is maintained in an IWTS electronic database. Material profiles are developed in IWTS to store characterization information that is specific to a particular waste stream. As the waste is generated, information pertaining to individual containers of waste is reported in individual IWTS container profiles. The information in the IWTS material profiles and container profiles is certified by a WGS waste technical specialist (WTS), who certifies that a hazardous waste determination has been performed and that the information is complete and accurate based on the analytical data or process knowledge used for characterization. The WTS also certifies that the information for the container falls within the bounds of the parent material profile. A different WGS WTS follows with an independent review of the information for completeness and accuracy. Finally, the information in the material and container profiles is approved by a WGS WTS, who authorizes WGS to dispose of the waste in accordance with the disposition path defined in the IWTS material profile. The WGS WTS also verifies that the waste meets the acceptance criteria of the facility or facilities where the waste will be disposed. This approval must not be performed by the WTS performing the review.

WTSs use the information in the IWTS material and container profiles to ensure that CERCLA wastes meet the acceptance criteria of the receiving facility. The IWTS also tracks shipments of waste to various areas or facilities using specific IWTS shipping tasks. Receiving locations, including those located outside the boundaries of the INEEL, must approve waste shipments before they are shipped. This approval is not documented in the IWTS database but is maintained in a hard copy file with the waste characterization information.

It should be noted that not all CERCLA IW is tracked in the IWTS database. Routine office waste is an example of IW that is not tracked in the IWTS. This waste is placed into IW receptacles that are placarded with information pertaining to what is permissible to be placed in the receptacles. Some IW is tracked in the IWTS database to ensure that the INEEL Landfill Complex is aware that the waste is being shipped and that it meets the facility's acceptance criteria. An example of IW that would be tracked in the IWTS is color-coded material, such as yellow shoe covers. Since yellow shoe covers are typically used for protection against radioactive contamination, a special profile has been prepared for color-coded PPE that has been surveyed and found to be uncontaminated with radioactivity or that has been used for training purposes. Another example would be containers that have had all contents removed, and the empty containers are not radiologically contaminated. Container profiles are typically not prepared for IW, because the waste is either shipped to the facility in reusable receptacles, in bulk shipments, or is noncontainerized.

There may be MLLW and possibly Toxic Substances Control Act (TSCA) PCB waste generated at physical interfaces between Voluntary Consent Order- and CERCLA-managed programs. The MLLW and/or TSCA PCB waste generated to support CERCLA activities will be managed as CERCLA

remediation waste. The MLLW and/or TSCA waste generated to support Voluntary Consent Order activities will be managed in accordance with applicable RCRA and/or TSCA regulations.

4.3.7 Staging, Inspection, and Recordkeeping

The use of staging piles at the remediation site is not planned. Rather, active management of the solid, nonflowing soil wastes within the work zone is planned, if required. If containers are filled with remediation wastes that are hazardous wastes or when the hazardous waste streams will no longer be generated, the wastes will be transferred to the ICDF within 10 working days. If this schedule cannot be met and waste staging at the remediation site is necessary, a temporary unit will be established in proximity to the remediation site and managed as described below. Wastes transferred to the ICDF for management will be managed in accordance with that facility's work plan. Waste staging piles may be used to manage waste soil piles or containers of CERCLA mixed waste (see Figure 4-1). Staging piles may be used for a period of up to 24 months unless the Environmental Protection Agency, the Idaho Department of Environmental Quality, and the DOE provide an extension. If waste is staged at the remediation site before treatment and disposal, the waste will be staged in proximity to the remediation site. The staging and inspection of waste generated from this activity will be performed in accordance with this WMP. The following list outlines the requirements applicable to staging piles and their use:

- If staging piles will be used to stage solid, nonflowing remediation wastes, the wastes will be placed on impervious liners.
- Construction of the base will ensure there is at least a 2% slope away from the soil waste pile to ensure proper drainage.
- The bottom liner material for the soil will be of sufficient strength/design to withstand the planned staging and subsequent removal of soils.

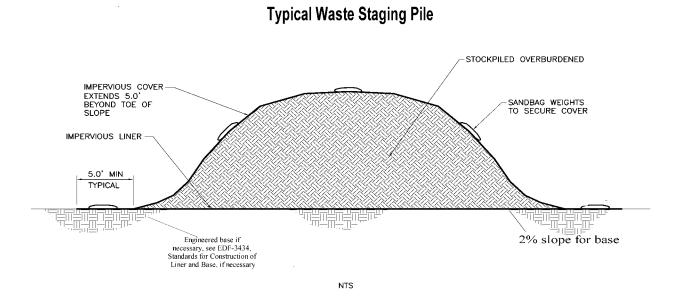


Figure 4-1. Cross section of typical waste staging pile.

- The bottom liner will extend at least 5 ft beyond every edge of the waste soil pile.
- The use of an impervious manmade material will be implemented to cover the soil piles at all times when the soil is not being actively managed (e.g., placing, sampling, or removing waste).
- The cover will extend beyond the bottom liner and will be secured so that the staging pile soils are not exposed to wind, precipitation, or elements.
- The cover will be constructed of impervious material sufficient to withstand site conditions (e.g., sun, wind, cold, heat, and movement to expose or cover the working face).
- Waste will not be added or removed during inclement weather, such as periods of precipitation and/or high winds. Incompatible wastes will not be stored in close proximity to a staging pile.
- Soils in the waste staging piles will be managed in a manner that will eliminate any potential run-on/run-off from entering the staging pile or run-off from contacting the soils, thus eliminating the need to contain run-off.
- Waste staging piles will be appropriately barricaded and signed.
- If containers will be used to stage solid, nonflowing wastes, the containers will be managed in rows with adequate aisle spacing maintained between rows to allow inspection and maintenance.
- Waste staging piles and containers will be inspected weekly.

The liner system could be a geosynthetic, asphalt, or concrete slab (minimum 4-in. thick). Geosynthetics could be 30-, 60-, or 100-mil-thick high-density polyethylene (HDPE) with or without a geosynthetic cushion. Compatibility between the liner material and expected wastes will be a criterion in liner selection. Covers could be a geosynthetic material (e.g., HDPE, very low-density polyethylene, polypropylene, or hypalon) or a 15-mil scrim-reinforced HDPE. Compatibility between the cover material and expected wastes will be a criterion in cover selection. Another criterion will be the ability to withstand sustained winds of 35 to 50 mph with appropriate anchorage.

Containers, if used for waste staging, will be selected to ensure compatibility with the waste being managed. Wastes that may be managed in containers include soil and debris, such as PPE and sample containers. The waste containers will be managed to enable inspection and ensure there are no releases associated with the management.

4.3.8 Managing Waste in the Temporary Storage Units

The use of temporary storage units for remediation wastes that are also hazardous wastes is not planned at the excavation sites. These waste containers will be "actively managed" (filled) and, when filled, transferred to the ICDF within 10 working days. If this schedule cannot be met and waste storage is required, a temporary unit will be established in proximity to the remediation site.

5. REFERENCES

- 10 CFR 830, Subpart B, 2003, "Safety Basis Requirements." *Code of Federal Regulations*, Office of the Federal Register, January 2003.
- 40 CFR 61, Subpart M, 2003, "National Emission Standard for Asbestos," *Code of Federal Regulations*, Office of the Federal Register, July 2003.
- 40 CFR 61.145, 2003, "Standard for demolition and renovation," *Code of Federal Regulations*, Office of the Federal Register, July 2003.
- 40 CFR 61.150, 2003, "Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations," *Code of Federal Regulations*, Office of the Federal Register, July 2003.
- 40 CFR 61.156, 2003, "Cross-reference to other asbestos regulations," *Code of Federal Regulations*, Office of the Federal Register, July 2003.
- 40 CFR 243, 2003, "Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste," *Code of Federal Regulations*, Office of the Federal Register, July 2003.
- 40 CFR 261.3, 2002, "Definition of hazardous waste," *Code of Federal Regulations*, Office of the Federal Register, July 2002.
- 40 CFR 262.11, 2002, "Hazardous waste determination," *Code of Federal Regulations*, Office of the Federal Register, July 2002.
- 40 CFR 300.440, 2003, "Procedures for planning and implementing off-site response actions," *Code of Federal Regulations*, Office of the Federal Register, July 2003.
- 40 CFR 302.4, 2003, "Designation of hazardous substances," *Code of Federal Regulations*, Office of the Federal Register, July 2003.
- DOE O 460.lB, 2003, "Packaging and Transportation Safety," U.S. Department of Energy, April 4, 2003.
- DOE-ID, 1991, Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory, U.S. Department of Energy Idaho Operations Office, U.S. Environmental Protection Agency Region 10, State of Idaho Department of Health and Welfare, December 1991.
- DOE-ID, 1999, Final Record of Decision, Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13, DOE/ID-10660, Rev. 0, U.S. Department of Energy Idaho Operations Office, October 1999.
- DOE-ID, 2001, Preliminary Characterization Plan for the OU 3-13 Group 6 RD/RA Buried Gas Cylinder Sites: CPP-84 and CPP-94, DOE/ID-10842, Rev. 2, U.S. Department of Energy Idaho Operations Office, March 2001.
- DOE-ID, 2003a, Remedial Design/Remedial Action Work Plan for Operable Unit 3-13, Group 6, Buried Gas Cylinders, DOE/ID-10838, Rev. 1, U.S. Department of Energy Idaho Operations Office, December 2003.

- DOE-ID, 2003b, *Idaho National Engineering and Environmental Laboratory Waste Acceptance Criteria*, DOE/ID-10381, Rev. 18, U.S. Department of Energy Idaho Operations Office, May 2003.
- DOE-ID, 2003c, *ICDF Complex Waste Acceptance Criteria*, DOE/ID-10881, Rev. 1, U.S. Department of Energy Idaho Operations Office, July 2003.
- DOE-ID, 2003d, *Waste Acceptance Criteria for ICDF Landfill*, DOE/ID-10865, Rev. 3, U.S. Department of Energy Idaho Operations Office, July 2003.
- DOE-ID, 2003e, *Waste Acceptance Criteria ICDF Evaporation Pond*, DOE/ID-10866, Rev. 4, U.S. Department of Energy Idaho Operations Office, August 2003.